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ABSTRACT

This Delphi study examined what the role of an academic library will be and what skills an academic librarian will need in the year 2005. The study involved two rounds of questions and was conducted between December 1998 and April 1999. Responses were received from 23 experts in 10 countries. In the first round of the study, the experts were asked to answer open-type questions, and the following common issues were identified: (1) impact factors--finance policy, information technology progress, changes in higher education, cooperation/regionalization, and law regulations/public issues; (2) library activities--involvement in teaching/education, information management/access, building collections and making them accessible, managing, creating electronic libraries, cooperation/resource sharing, support for research/reference, and social activities; (3) skills of librarians--communication/training, information technology, managerial, commitment, and subject knowledge/profiling; and (4) problems with new technologies/electronic media--managing electronic information, dealing with change, legal, finance, people, and competitiveness. Based on analysis of first-round results, the second questionnaire was prepared containing 12 closed-type and one open-type question. A vision of the academic library, library activities, and librarians in the year 2005 was formulated. Appendices include: an outline of issues appearing in answers to first-round questions; the second-round questionnaire; and a list of experts surveyed. (MES)

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THE FUTURE OF THE ACADEMIC LIBRARY AND THE ACADEMIC LIBRARIAN - A DELPHI STUDY

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The authors are very grateful to all the Experts, thanks to whom this study was possible. Especially, that despite the basic rules of Delphi method, we were unable to offer any substantial motivation to work with us. Additional words of thanks go to Simon Francis who helped us to correct our, far from perfect, English. Thank you all.

Introduction

The impressive pace of technological change influences all aspects of human communication. It is crucial that libraries prepare a range of responses to the pressing library questions of the electronic era. There are also other factors that shape the vision of the academic library today and in the near future. What are they? What will the future library activities be? What steps should the average library undertake to be well prepared for the future? What skills should a librarian of the New Millennium have? These and many more questions are asked and answered today by many people in the world. Sometimes their opinions are totally opposite. Who is right? Who can predict the future?

The authors themselves do not pretend to know the answers to those challenging questions. We undertook a Delphi study, the aim of which was to find the most probable scenario for the academic library of the future. A Delphi method was selected, because its core is co-operation with a panel of experts in the field. Based on their opinions concerning the specified problems, we have determined the most important trends in changes observed in the library environment. The aim of this paper is to present the results of this study.

The Method

Delphi is a qualitative method of forecasting, which employs a team approach to decision-making. It involves defining the problem of the study, the preparation of two or three consecutive questionnaires, which are sent to a selected group of experts, and then a subsequent analysis of the responses. As a result, an expert consensus is developed about the topic of study.

The key question of our Delphi study was: What will be the role of an academic library and what skills will an academic librarian need in the year 2005? We were interested in the factors that influence academic library activities currently and in the future. We also focused on the skills and characteristics of the librarian in the new Millennium. The study involved two rounds of questions and was conducted between December 1998 and April 1999. 32 professionals were invited to take part in the panel of experts, 28 of whom kindly agreed. Finally, we received answers from 23 experts in 10 countries (Appendix C).

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There is a wide range of methods that may be used to analyse experts' responses. For the first round questions (open type) we decided to use the affinity diagram technique to identify a diversity of ideas, factors, characteristics and other issues appearing in the responses. For the second round questions (mainly of the closed type) simple statistical techniques were used.

ROUND ONE AND ITS RESULTS

In the first round of the study the experts were asked to answer the following four open-type questions (problems):

1. *Key public policies, information strategies and ongoing projects as the context for libraries:*
   List five factors, which currently have the most impact on the picture of an academic library in your country, starting with the most important ones. If a factor needs explanation or further subdivision – please include it. Indicate the way each factor influences academic libraries.

2. *Library activities*
   Discuss briefly five main areas of library activities predicted for 2005. Arrange them in order, starting with the most important ones.

3. *Present and future staff training*
   List at least four characteristics (or/and skills) of a person to be employed in an academic library at the beginning of 21st Century, in the order of their importance.

4. *Library without walls*
   List five the most difficult problems to be considered when dealing with electronic media.

After having collected and carefully read the different opinions expressed by the experts in the first round questionnaire we had to admit that all the material gathered has proved rich enough not only to write a paper but also quite a thick book. Because of the above reasons we have had to decide on a rather high level of generalisation, only getting into details in selected areas.

The variety of factors identified and discussed by the experts after the first-round questions and the range of issues that have emerged as a result of their responses have made it very difficult to identify general groups of problems for further study. The analysis of the responses has led to the identification of some common issues for each of the topics considered. The issues identified and their scope have been sorted using the affinity diagram. We are aware of the fact that both the classification of the issues discussed and their interpretation are not perfect, especially as some issues could be considered in different ways. The proposed classification (the affinity diagram) is presented in a full form in Appendix A. In the analysis below only the titles of proposed categories have been shown. Four graphs show the weighted number of experts' votes according to the proposed classification.

Impact factors

In the case of question no. 1 the diversity of answers was quite large and it was difficult to decide which of the different factors are primary ones and which are only secondary, i.e. resulting from the primary factors. In the end, it was decided to divide all the impact factors into 6 groups:

1. **Finance policy**
2. **IT progress (development)**
3. **Changes in higher education**
4. **Co-operation and regionalisation**
   Although different forms of co-operation among libraries, or between libraries and publishers, are

mainly the effect of financial constraints, the authors decided to list them as an independent factor because we consider co-operation as something more than just a solution to the problem of finance. The validity of such an approach had still to be clarified in the second round.

5. **Law regulations/public issues**
6. **Other**

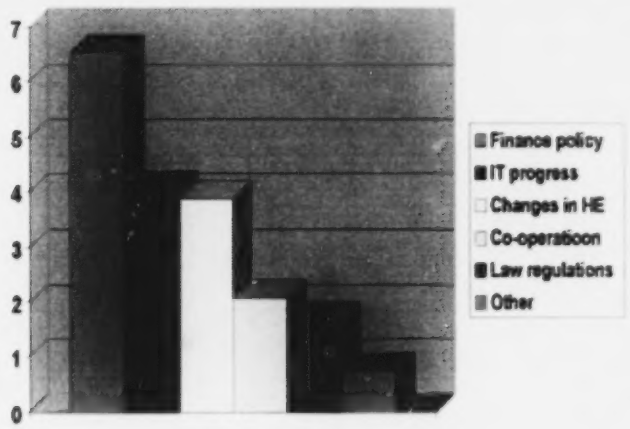

Fig. 1. Impact factors

Library Activities

1. **Involvement in teaching and education**
2. **Information management and information access**
3. **Building collections and making them accessible**
4. **Managing in general**
5. **Creating electronic libraries**
6. **Co-operation and resource sharing**
7. **Support for research and reference**
8. **Social activities**

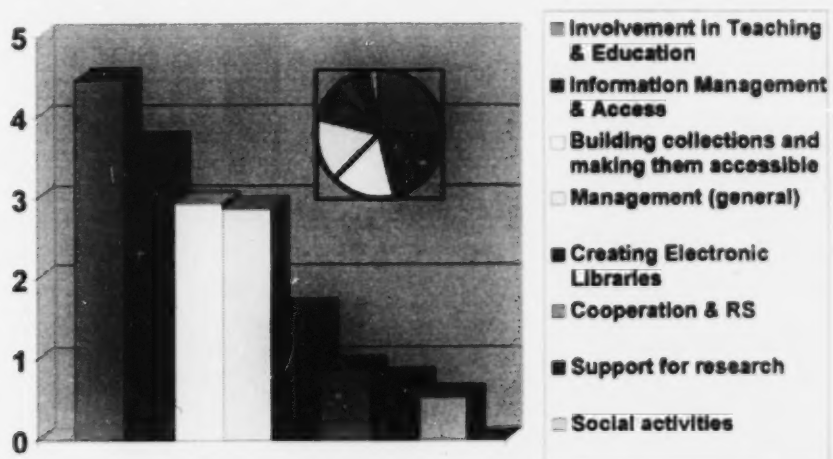

Fig. 2. Library Activities. Pie chart inset to show approximate percentage of different library activities.

Skills of Librarian

1. **Communication/training skills**
2. **IT skills**
3. **Managerial**
4. **Commitment**
5. **Subject knowledge / profiling**

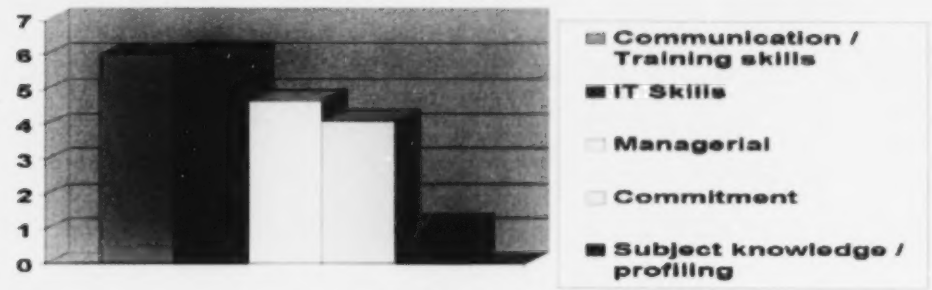

Fig. 3. Skills of librarian.

Problems with new technologies / electronic media

1. **Managing electronic information**
2. **Dealing with pace of change**
3. **Legal**
4. **Finance**
5. **People (human factor)**
6. **Competitiveness**

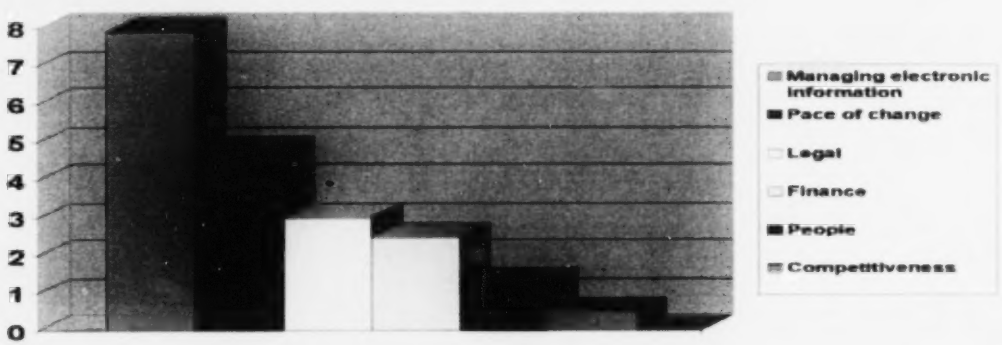

Fig. 4. Problems with electronic media

ROUND TWO AND ITS RESULTS

Basing on the above analysis, the second questionnaire was prepared containing 12 closed-type and one open-type questions.

The first nine questions contained a brief observation and proposition submitted by the authors. The experts' task was to express the level of agreement with the proposition using closed-scale statements: strongly disagree, disagree, neither agree nor disagree, agree, strongly agree. The full text of questions 1-9 as well as the rest of the questions asked in the second round questionnaire is given in Appendix B. Below we give the short form of the proposition given in questions 1-9 of the second round of the study for the purposes of the following analysis.

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Propositions of questions 1-9 of the second round questionnaire (in a short form):

Q1: Library budgets will significantly improve in future due to a variety of actions undertaken by libraries.
Q2: Libraries will have to introduce more paid services and seek sponsors.
Q3: Co-operation between libraries is a budget-independent tendency.
Q4: Libraries will provide basic PC/software training and provide access to the Internet.
Q5: Libraries will be deeply involved in distance learning by providing technical infrastructure and the necessary services.
Q6: There will be staff increases in information services and a decrease in traditional library divisions.
Q7: Library managers will be graduates from academic schools of economics and business centres rather than library professionals.
Q8: Libraries will merge with the computer centres of their parent universities.
Q9: Due to its chaotic nature, the Internet will decreasingly serve as a source of professional information.

Experts' answers to the above propositions are presented in fig. 5. Dots show the average level of agreement with the theses and error bars represent the values of standard deviation. Such a presentation makes it possible to show not only the overall response to a given proposition but also the dispersion of the answers received.

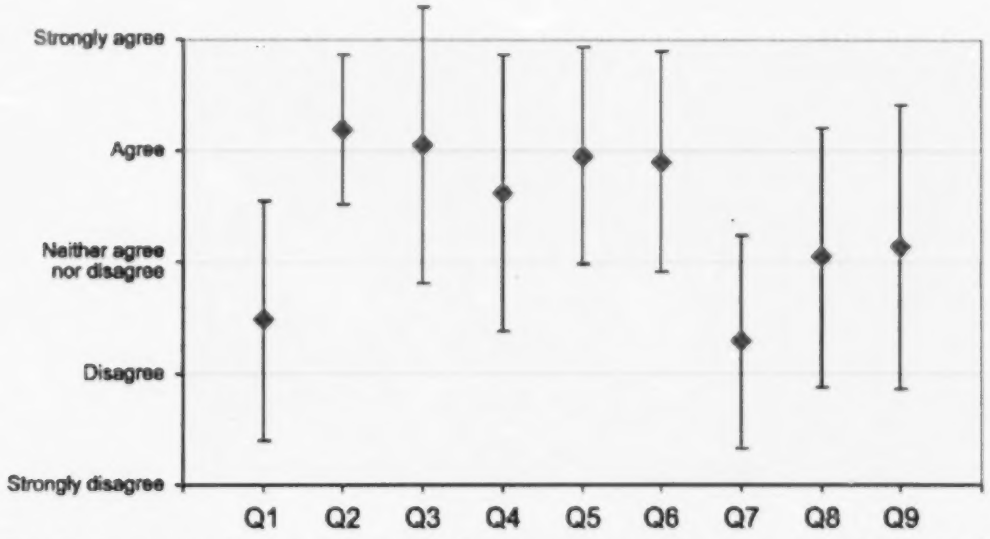

Fig. 5. Average reply to questions 1-9 of the second round (mean and standard deviation)

As it may be seen, there was a generally positive response by the experts to the propositions presented in questions 2-6. Note the low value of standard deviation for question 2 which means that almost all experts agree or strongly agree with the proposition, that libraries will introduce more paid services and will look for sponsors to find additional sources of money. The proposition that libraries will be able to improve their budgets by lobbying and different forms of pressure on government bodies (Q1) as well as the idea that library managers will be graduates from business schools (Q7) did not find support from the experts. Finally, the last two questions (Q8, Q9) appeared more controversial than had been expected, thus having a "neutral" average and showing a wide diversity of opinions.

The next question of the second round questionnaire, concerning the percentage of different groups of library personnel (see Appendix B, Question 10), brought the averaged results presented in fig. 6.

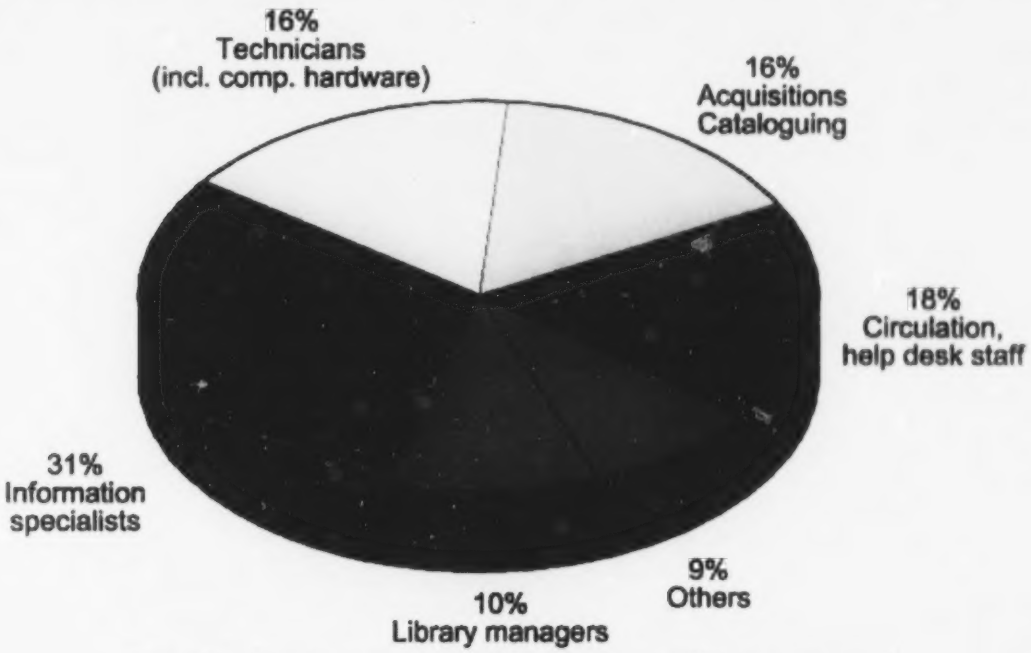

Fig. 6 Predicted percentage of different groups of library personnel

The question on the groups of library users most likely to be trained by library staff (Appendix B, Question 11) proved that, despite possible new groups of users, academic libraries will mainly serve academic community. The three most likely trained groups in the future are:

1. Students
2. Academic staff
3. Researchers

The remaining groups (people from the outside the academic community, present non-users and others) took almost equal places.

The last of the closed-type questions concerned the problem of staff who are unwilling to change (Appendix B, Question 12). Most of the experts have a peaceful and patient approach and offer training as the way of having more benefits from the staff. However, some experts stress that the time offered for training should be limited and if this way fails – other more radical means should be applied.

ANALYSIS OF THE RESULTS

Surprisingly, the results of the first round questionnaire show that it is not the development of information technology or changes in higher education that are considered as the most important factors influencing the picture of the academic library today. The respondents agree that overall financial policy has the most impact on all library activities. What does it mean? Does it mean, that having more money libraries would look, work, be organised, and provide services in a different way? Does it mean that a 'rich' library is, or would be, very different from a 'poor' library in terms of its functions? Paradoxically, no. Richer libraries would build collections and introduce new technologies more easily but we do not think that adequate financing itself would change the image of the academic library to such an extent (and in the way) as progress in IT does. Answers to the questions 1-3 of the second round of the study seem to corroborate this

thesis. But in the context of the real danger of splitting a future information society into two groups – a dominant information-rich minority and a powerless information-poor majority, the influence of national information strategies and subsequent level of funding have substantial meaning not only for the library development but even for its existence. On the other hand, most respondents agree that neither growing co-operation between libraries, nor different forms of pressure on governing bodies, may in the next few years result in an increase of funds for libraries. It means that library professionals do not expect any significant improvement in overall library budgets. This in turn leads to the conclusion that the main impact on changing patterns of library services will derive from factors other than funding levels alone. Neither in the past nor in the present have libraries had enough funds. If it had been mainly financial issues that influence change, libraries would never have achieved their present state of automation. Nor would they have developed so many new facilities and services. Therefore we believe that despite levels of funding which will always be insufficient, academic libraries of 2005 will not only survive but also expand their activities. They will get more deeply involved in teaching and education, building integrated collections of different media and managing information. Although our study, reflecting the diverse opinions of the experts, does not entitle us to present the only model of the future academic library, it gives us basis to formulate an overall vision of both the future library and the librarian in the year 2005.

The Vision

The academic library of 2005 will remain "academic" – it will not yet merge with the public library, nor will become part of a regional library. However, it will co-operate closely not only with other libraries of the same type, but also with different libraries and information centres, firstly in the region and subsequently all over the world.

The academic library will continue to fulfil its basic functions, however incorporating into its mission statement some new issues, arising mainly from IT progress and change in higher education patterns. It will depend strongly on the national information strategy and subsequently the strategy of its parent institution, but on the other hand, increased library lobbying will build a better understanding of information management problems and the library contribution among decision-makers of different levels. Neither growing (though still insufficient) awareness of the role of libraries in an information society, nor different forms of pressure on governing bodies will result in significant improvement in library budgets. Therefore libraries will have to look for additional income. It may be achieved through better library marketing within the community, but it will also require the introduction of a wider range of paid services. Essential services related to academic requirements will, however, remain free of charge. Insufficient funds will strengthen the role of library co-operation, which is also a natural effect of easier communication. Consortia-based activities will include such issues as the creation of integrated library networks, common acquisition policies (shared collections), collaborative initiatives to improve access to, and exploitation of, research resources, negotiations and lobbying publishers and commercial suppliers, rights negotiations, finally – the exchange of knowledge and practical information on resources, contracts, suppliers and licence agreements.

Library activities

The academic library will not only serve but also will be deeply involved in teaching and education. It means both intensive and extensive training of users in techniques of data retrieval on the one hand, and involvement in distance learning and other new patterns of teaching and learning techniques on the other.

Judging by the opinions expressed by the experts, individual solutions here will differ significantly: some libraries will merge with academic computer centres, some will remain separate but will engage in the organisation of Internet labs and computer clusters for their users. Some libraries will become deeply involved in preparation of electronic materials for distance students, whereas others will limit their activities in this field to maintaining adequate electronic resources and links. No matter which solution will they adopt, all of them will become more or less involved in both training users in computer skills and

distance learning schemes. The most effective retrieval tools will become more and more complicated, as the underlying algorithms will be buried deeply in the software. That is why only experts will be able to guide users in techniques leading to the most satisfactory search results. Teaching and training in data retrieval techniques will primarily involve students, academic staff and researchers. An important group of people to be trained will be the present non-users as well as users from the outside the university (local administration, industry and schoolchildren).

Despite the automation of library processes, the users will expect to receive much support from the library staff. It will be of different type. Students will get assistance mainly in the library or via network services, whereas the staff will expect more individual, face-to face assistance and desktop delivery of information. As it was mentioned before, almost all the users need training. It means that almost 50 % of library activities will be related to information management and training. These new functions will force libraries to increase the number of staff in information services, which in turn will force a decrease in the number of staff in other traditional library divisions. It is forecasted that the structure of the library staff will change (see Fig. 6). Information specialists and technicians (incl. hardware specialists) will form over 46% of the library staff. The number of staff in Acquisition and Cataloguing departments will decrease to about 16 % of all library personnel.

The library will play an important role in the overall university information infrastructure. In the world of ever-growing but dispersed information, libraries will deal both with information processing (adding value) and management (including resource and metadata management). It will also support research through maintaining profiled resources for the local research community and providing individual personal desktop alerting services.

IT progress will lead to the integration of different types of media. The primary goal of the library will remain the responsibility for building of collections suitable for its parent institution. Academic libraries will collect and store all types of documents relevant to their mission. Managing collections will include decisions on shared acquisition policy, balancing holdings versus access, the issues of cataloguing and classification of different types of media, digitisation and archiving of media and making them accessible on the net, and finally preservation issues. The question of quality standards of electronic materials collected and "filtering" technologies will have to be considered at the same time.

As scholarly information grows in volume, libraries will deal with new issues: the assistance in the electronic publishing and archiving of materials produced by staff of the parent institution, but also the fair use of materials protected by copyright, which is not an easy task in a digital environment. Despite many new regulations, which will be in force by that time, legal issues (incl. ownership and licensing) will still apply to important acquisition/archiving problems.

Assuming that the appropriate international standards will be introduced by that time, the interchange of data ought not to be a problem. The service that will be further developed is document delivery.

The academic librarian

The vision of the library of the future cannot be complete without the vision of the librarian of the future. His/her, knowledge and experience, characteristics and image will all in all decide the future of the library. As one of the respondents said, "we need librarians, who feel comfortable wearing a number of hats. The academic librarian of the 21st century must be a researcher, counsellor, planner, manager, assessor, team member, problem-solver and computer-printer repairman". This opinion, shared by most of the experts, shows that the librarian of the future (an average member of the library staff) will be expected to be quite a versatile creature. His/her most important characteristics are very good interpersonal and communication skills, language proficiency, team-working skills, user friendliness and customer orientation. In order to fulfil at least the above expectations and to work with no hope of a reasonable salary, a candidate for the

2005 librarian needs to have really a good sense of humour. Training it's users will be one of the most important services of the user-oriented library, therefore teaching and training skills are essential for the librarian of the future, not to mention both library and IT skills - not only basic but also advanced and even super advanced.

As the nature of contracts is already changing, the future structure of employment will be mainly project-based. New, different tasks and recurrent challenges will require from librarians of the future such characteristics as flexibility, adaptability to ever-changing environments, multi-disciplined and multi-functional skills, team-working skills, finally commitment to profession, without which he/she will not be able to suffer all the stress caused by the work.

Financial issues, technology, standards, legal regulations – these and many more aspects of library work will require managerial, entrepreneurial, analytical skills and a global approach plus leadership qualities and good legal acumen. Finally, it is not enough to have wide library and information knowledge – subject knowledge of at least one area of teaching and research in the institution will be highly appreciated. A person with all the above skills and features ought to be able to imagine futures and work towards them.

Last but not least, one word about library managers. In spite of all the managerial skills required from candidates for directors, most experts agree that they will be library professionals, not typical businessmen graduates from academic schools of economics or business centres.

In order to enable the future library staff to keep up with the pace of change, continual hands-on training, professional courses, seminars and workshops will be organised. Librarians of the future will have to be prepared for life-long learning. Continual professional development will be part of their everyday work. Those who do not feel comfortable facing challenges will have to look for a more comfortable job. Only "the rolling stone gathers no moss".

Final Comments

The rather philosophical question on the limits of library mission to store and make human knowledge available asked as the last one in the second round questionnaire (Appendix B, Question 13), brought natural but still unexpected answers. The response by one of the experts: *"Libraries and librarians should be able to keep pace with the ever increasing technological changes and should be able to adapt themselves as keepers and providers of information, regardless of the form of information"* seems to be accepted by most of the experts as well. This is surprising, because the fast pace of change in many aspects of our lives makes the future less predictable than we might suspect and despite this fact, librarians feel ready for this future. Why? Because they are true Librarians, people so perfectly characterised by another expert:

> *"Essentially, that which draws librarians to their profession is often an insatiable curiosity about their subject interest, information in general, information as it is broadly expressed through the interests of serious researchers and students. Curiosity also makes it possible for people to put up with the frustrations that often accompany their difficult and complicated jobs. It seems that this is a characteristic that is a sine qua non for librarians of 2005 as it is now."*

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Appendix A
Affinity diagram for the issues appearing in the experts' answers to the first-round questions

Question 1 – Impact factors

1. **Finance policy,**
   covering the following factors appearing in the answers: level of funding – different aspects; national information strategy; increasing cost of journals; competition in applying for limited resources; necessity to introduce fee-based services.
2. **IT progress (development):**
   pace of change and related difficulties in keeping up with it; integration of different types of media; growing problems with acquiring well trained staff.
3. **Changes in higher education:**
   increasing number of students; increasing role of distant learning; merging libraries and computer centres; changes in scholarly publishing patterns (incl. print vs. electronic media); growing competition among universities; growing users expectations and demands; "quality" of students.
4. **Co-operation and regionalisation**
5. **Law regulations/public issues:**
   copyright law; intellectual property; legislative policies; legislative status of academic library; recognition of the library and librarian in the society; social status (incl. salaries); media coverage.
6. **Other:**
   bad national library services; quality of library services/accountability.

Question 2 – Library Activities

1. **Involvement in teaching and education:**
   training of users in techniques of data retrieval; training of users in operating PC's (e.g. Windows, basic office applications, Internet access); providing access to the Internet (Internet labs); professional staff training/development.
2. **Information management and information access:**
   filtering and selection of information; operating metadata; adding value to information (processing information).
3. **Building collections and making them accessible:**
   acquisition and processing of media (traditional and new); storage and access to all media; retroconversion.
4. **Managing in general:**
   managing funds; managing people; creating policies; managing licences; dealing with legal and copyright issues; balancing acquisition vs. access.
5. **Creating electronic libraries:**
   digitising/archiving of media and making this form accessible on the Internet; preservation.
6. **Co-operation and resource sharing**
7. **Support for research**
   (also reference)
8. **Social activities:**
   creating a pleasant environment; promoting the ethos of work.

Question 3 – Skills of Librarian

1. **Communication/training skills:**
   language proficiency (stressed mainly by non-English speakers); team-working skills; customer orientation; service needs awareness; user friendliness; public communication skills; good sense of humour.
2. **IT skills:**
   basic: PC, Windows and Internet knowledge; advanced: HTML, web pages design, systems design; library skills / proficiency in information management i.e. knowledge of sources of information and its organisation.
3. **Managerial:**
   project management skills; IT management; time management; business approach; analytical skills; global approach/vision; leadership qualities; good legal/institutional acumen; knowledge of international standards.
4. **Commitment:**
   intellectual curiosity/imagination; commitment to the profession; flexibility/adaptability; multi-disciplined and multi-functional skills; entrepreneurial approach.
5. **Subject knowledge / profiling**

Question 4 – Problems with new technologies / electronic media

1. **Managing electronic information:**
   dealing with the excess of information; long term storage and access; potential loss of material (e.g. licence expiration, poor or no archiving) – especially of online data; reliability and stability of data sources (source management); quality and permanence of sources; interlibrary co-operation in electronic resources acquisition; storage and circulation on national and international levels; organisation/cataloguing of electronic media; acquisition policy (also balancing cost of acquisition/access).
2. **Dealing with pace of change:**
   weak technical infrastructure; connectivity difficulties; low bandwidth; access by "information poor"; changing versions; upgrades (non-financial aspect); lack of standards; growing user expectations; preservation of older types of media and their conversion to new formats.
3. **Legal:**
   licensing; ownership; copyright.
4. **Finance:**
   finance in general; cost effectiveness; balancing costs of acquisition vs. access; financing replacements and upgrades.
5. **People:**
   we – librarians; behaving incorrectly when trying to handle electronic media as books; users' low awareness; need for training; life-long staff training; misuse of services; subcultures of users; users' neglecting traditional materials; plagiarism; human resources; technical staff; finding right people.
6. **Competitiveness:**
   competition with commercial companies; library and IT lobbying.

Appendix B
Questions of the second-round questionnaire

1. As it may be seen from the graph, the level of finances and overall government strategies for libraries have the greatest impact on the current image of academic libraries. At the same time it seems to be the only important factor that may be influenced e.g. by means of library lobbying. **Growing**

co-operation among libraries and different forms of pressure on governing bodies may result in the next few years in significant increase in the level of finances for libraries and improvement in their overall budgets.

2. **Along with library lobbying, which not necessarily will lead to improvement in library budgets, libraries anyway will be forced to find additional income by introducing wider and wider range of paid services and will be seeking for sponsors (perhaps among the industry companies using the services of academic libraries) to cover increasing costs.**
3. **Co-operation** among libraries and tendencies to create regional or "subject" consortia have been noted as one of the factors that influences the vision of the academic library. Although co-operation itself is by many people recognised as forced by the financial constraints, in fact it **is also a natural effect of "disappearing boundaries" and "diminishing distances" in the era of fast and easy communication (both real and virtual). Such effect would appear even at perfect financial condition of libraries.**
4. The educational role of libraries in the future (much more important than now) cannot be underestimated. **Along with training users in effective search for information (which is undoubtful), libraries should be prepared to act also as training centres in PC and basic office software use and provide an open access (for academic community) to the Internet services e.g. by creating Internet labs.**
5. Growing role of distant education generates questions about the level of library involvement in this process. **To be recognised as important in the academic education process, libraries should involve as much as possible also in the organisation of distant learning process by maintaining appropriate web pages, provide scanning services, digitising data sources for lectures, maintaining mail accounts for lecturers and students etc.**
6. Almost 50% of future library activities will be related to information management and training. **These new functions will force libraries to increase the number of staff in information services/departments, which in turn (taking into account limited resources) will force decreasing the number of staff in other (traditional) library divisions.**
7. Most of respondents consider managerial skills and entrepreneurial as extremely important characteristics of the future librarian. Professional knowledge in turn is less stressed. **This may suggest that future library managers will be graduates from academic schools of economy and business centres rather than library professionals.**
8. Interpersonal communication and training skills, as well as good knowledge of computers and software used for managing information will get much more important for library staff. The same concerns information science teachers. The process of merging libraries and computer centres might be then a solution for library's problems with qualified staff. **Creation of Information Services Centres or Learning Resources Centres (joint computer centre and library), the process that has already started a few years ago in some universities, will continue to grow and in the year 2005 most of the academic libraries will be merged with the university computer centres.**
9. Many respondents point out, that the Internet resources are getting more and more unreliable, unstable and misleading. In future its role as a source of information will decrease not only because of difficulties in quality assurance but also because of increasing time of access. Libraries will focus on other electronic media (e.g. sophisticated CD software), treating the Internet mainly as a valuable means of communication. Intranets will be some alternative. **Present librarians' hard efforts to index the Internet sooner or later will prove to be the waste of time. It will remain chaotic as its nature is.**
10. **How the effect described in question 6 would affect the staffing patterns in libraries? Please provide an approximate forecasted percentage of different groups of library personnel (total = 100%)**

    [ ] Library managers (incl. middle management staff)

    [ ] Information specialists (incl. subject librarians in information services and reference

librarians)

[ ] Technicians (incl. computer hardware specialists)

[ ] Acquisitions / Cataloguing

[ ] Circulation / help desk staff

[ ] Others (if significant – specify the group)

11. Training (both self-training and user training) seem to be one of the most important roles of library staff in future information society. **Identify groups of clients most likely to be trained by library staff. Put them in order inserting number from 1 to 6 at the level of each group of users.**

    [ ] Researchers

    [ ] Academic staff

    [ ] Students

    [ ] People from the outside of the academic community (business, industry, local administration)

    [ ] Present non-users

    [ ] Others

12. All basic characteristics of a future librarian (see related graph) are attributes of "young businessman" rather than "traditional library clerk". On the other hand, libraries are still regarded as quiet and nice working places, where many, not necessarily energetic and communicative people, have been employed full time and "forever". Moreover, library is usually not the first and first-choice working place after graduation and people employed are not likely to leave the library, even if they realise they can't cope with new challenges. To make things worse, many of them will never admit that they are not the right persons for the posts they occupy. **The problem of not-in-the-right-place people may be solved by:**

    [ ] firing of "not-to-be-reformed" staff

    [ ] training, training, training

    [ ] natural selection

    [ ] poisoning them slowly but effectively

    [ ] other means (please, specify)

13. Gaining knowledge is the process of experiencing with our senses. The aim of libraries was always to help increasing peoples' knowledge. First they stored books, then magazines, then music records, videotapes, CD-ROMs and so on. Is there any limit for the type of media stored, archived and issued to users by libraries? There are still human senses that can't yet be digitised. What if? Will libraries be obliged to store, archive and make accessible digitised smells, digitised taste? Or digitised emotions? Please make a short comment on this.

Appendix C
List of Experts in the alphabetic order

1. Toby BAINTON, SCONUL (Standing Conference of National and University Libraries) Secretary, London, UK
2. Marvin BIELAWSKI, Deputy University Librarian, Firestone Library, Princeton University, Princeton NJ, USA
3. Simon FRANCIS, Consultant, London, UK
4. Czeslaw Jan GRYCZ, Director, The Poniecki Foundation, Inc., El Cerrito CA, USA
5. Robert HAYES, Professor Emeritus, Dept. of Library and Information Science, UCLA, Los Angeles CA, USA
6. Henryk HOLLENDER, Chief Librarian, Warsaw University Library, Warsaw, Poland
7. Maimunah KADIR, Chief Librarian, University Kebangsaan Malaysia Hospital, Kuala Lumpur, Malaysia
8. Roman KOCHAN, Dean, University Library and Learning Resources, California State University, Long Beach CA, USA
9. Dincho KRASTEV, Library Director, Central Library, Bulgarian Academy of Sciences, Sofia, Bulgaria
10. Ewa KRYSIAK, IT Executive Manager and Coordinator, National Library, Warsaw, Poland
11. Derek LAW, Librarian and Director of Information Strategy, Andersonian Library, University of Strathclyde, Glasgow, UK
12. Elena MACEVICIUTE, Professor in the Faculty of Communication, Vilnius University, Vilnius, Lithuania
13. Di MARTIN, Director of Learning & Information Services, University of Hertfordshire, UK
14. Ian MOWAT, Librarian to the University, Edinburgh University Library, Edinburgh, UK
15. Richard QUANDT, Andrew W. Mellon Foundation, New York NY, USA
16. Margaret ROUSE-JONES, Campus Librarian, University Libraries, University of West Indies, St Augustine, Trinidad and Tobago
17. Heiner SCHNELLING, Head Librarian, Universitas und Landesbibliothek Sachsen-Anhalt, Halle, Germany
18. Anja SMIT, Universitetis Bibliotheek Nymegen, Nymegen, The Netherlands
19. Milena TETREVOVA, Head of Information Department, Technical University, Kosice, Slovak Republik
20. Manfred WALTER, Librarian, Technische Hochschule, Berlin, Germany
21. Terry WEECH, Associate Professor, GSLIS, University of Illinois, Urbana-Champaign, USA
22. Geoff WESTON, Associate Director of Academic Services, Brynmor Jones Library, The University of Hull, Hull, UK
23. Tom WILSON, Research Professor in Information Management, Department of Information Studies, University of Sheffield, Sheffield, UK

Back to contents

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